

REMARKS

Summary of Telephonic Interview with the Examiner

Applicant thanks the Examiner for speaking with the Applicant's representative, Elizabeth Parsons on March 21, 2006. Specifically, the Kozlowski reference and the Advisory Action dated March 14, 2006 were discussed. To overcome the prior art, the Examiner recommended that claims 1 be amended to recite "... wherein the at least one transistor structure is configured to have at least two threshold voltages associated with the at least one channel region at a same time"

Claims

Claims 15-19 were previously withdrawn. Claims 13, 37, 38, and 40-59 were previously canceled. Claims 1, 20, 25, and 39 have been amended. Claims 1-12, 14, 20-36, 39, 60-69 are pending in this application. No new matter has been added. Applicant gratefully acknowledges the statement by the Examiner that claims 20-24 are allowed.

Claims 1-3, 25-27, 64, 65, 67, and 68 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kozlowski et al. (U.S. Pat. No. 6,498,331). This rejection is respectfully traversed.

As amended, independent claim 1 recites, *inter alia*, "[a] pixel cell comprising" "at least one transistor structure is configured to have at least two threshold voltages associated with the at least one channel region at a same time." Similarly, independent amended claim 25 recites, *inter alia*, "[a]n image sensor comprising" "the transistor structure is configured to have at least two threshold voltages associated with the at least one channel region at a same time."

Kozlowski relates to an apparatus and method for achieving uniform low dark currents by setting “[a] threshold voltage of a reset FET in an active pixel sensor . . . to an appropriate value such that the dark current from a photodiode is actively removed through the reset FET.” (Kozlowski, col. 1, lines 59-63). More specifically, Kozlowski teaches that “if the threshold voltage V_t of the reset FET 14 is set appropriately, the dark current I_{DK} 24 can be “siphoned off” (i.e. subtracted) through the reset FET 14 as the photocurrent is also integrated.” (Kozlowski, col. 3, lines 20-23, FIG. 1). Kozlowski also discloses how to determine an optimum threshold voltage $V_{tOptimum}$. (Kozlowski, col. 3, line 40, FIG. 2). Kozlowski, however, does not disclose, teach or suggest a transistor structure configured to have at least two threshold voltages at a same time, as recited by claims 1 and 25. For at least these reasons, Applicants respectfully request withdrawal of this rejection.

Claims 67 and 68 depend from claim 20. As the Examiner has stated that claim 20 is allowable, Applicant assumes that the rejection was merely an error and that claims 67 and 68 are allowable along with claim 20.

Claims 4, 7 11, 12, 14, 28, 31, 36, 39, 60-63, 66, and 69 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kozlowski et al. (U.S. Pat. No. 6,498,331). This rejection is respectfully traversed.

As previously discussed, Kozlowski fails to disclose, teach or suggest “at least one transistor structure is configured to have at least two threshold voltages associated with the at least one channel region at a same time,” as recited by claims 1 and 25. As amended, independent claim 39 similarly recites, *inter alia*, “a processor system comprising” “the transistor structure ... [being] configured to have at least two threshold voltages associated with the at least one channel region at a same time.” Kozlowski fails to teach or suggest the limitations, as discussed above. The Examiner

cites Hynecek (U.S. Pat. No. 5,546,438), Koizumi et al. (U.S. Pat. Pub. 2003/0137594), Guidash (U.S. Pat. No. 6,504,195), and Sakuragi et al. to support what the Examiner indicates are well known positions. None of these references; however, supplement the deficiencies of Kozlowski. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claim 69 depends from claim 20 and contains all of its limitations. As the Examiner has stated that claim 20 is allowable, Applicant assumes that the rejection was merely an error and that claim 69 is allowable along with claim 20.

Claims 5, 6, 8-10, 29, 30 and 32-34 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. As discussed above, however, applicant believes that these claims depend from allowable base claims. Therefore, Applicant respectfully requests the withdrawal of the objection and allowance of the claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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